

CHAPTER 1: INTRODUCTION

Background

California has moved into the second year of its schedule of requiring graduation exams in mathematics and English-language arts (ELA) beginning with the class of 2004. As is the case in nearly half of the states in the country, California began this initiative in response to widespread support for high standards and for some mechanism that holds students to them. This component of California's testing program is intended to ensure that all students graduating from high school demonstrate grade level competency in reading, writing, and mathematics. The California Education Code, Chapter 8, Section 60850, specifies requirements for the California High School Exit Examination (CAHSEE). Since January 2000, the California Department of Education (CDE) has worked with a development contractor, the American Institutes for Research (AIR), throughout the development and field testing of items for use in the CAHSEE and the operational tests with 9th graders (on a voluntary basis) in March and May of 2001.

The legislation, specifying the requirements for the new exam, also called for an independent evaluation of the CAHSEE. CDE awarded a contract for this evaluation to the Human Resources Research Organization (HumRRO). HumRRO's efforts focus on analyses of data from the field test of items (test questions), the field administration of the test, and the annual administrations of the CAHSEE, and report on trends in pupil performance and pupil retention, graduation, drop-out, and college attendance rates. As specified in the legislation, the evaluation reporting will include recommendations for improving the quality, fairness, validity, and reliability of the examination.

Plans for conducting the evaluation have been updated each year in response to new and evolving information about plans for developing and implementing the CAHSEE (Wise, Hoffman, & Harris, 2000; Wise, Hoffman, Harris, Sipes, & Ford, 2000). These plans are summarized briefly here to provide a context for the continuing evaluation activities.

The Year 1 evaluation activities involved reviewing and analyzing three types of information:

Review of Test Developer Plans and Reports. No formal reports were available during the first year; thus, we attended meetings and listened to presentations by the development contractor (AIR) and by CDE. We also monitored various presentations to the CAHSEE Panel and to the State Board and had direct conversations with members of each of these groups.

Statewide Data Sources. An initial source of information for our evaluation was data from the CAHSEE pilot administration. We also examined 1999 Standardized Testing and Reporting (STAR; for details see <http://star.cde.ca.gov/>) results with plans to monitor trends in STAR results over the course of the evaluation.

District and School Sample. We selected a representative sample of 24 districts, and approximately 90 of their high schools, to establish a longitudinal group for study. The

baseline surveys, which were administered to principals and ELA and mathematics teachers, provided an initial look at schools' perspectives of the impact of CAHSEE on their programs. We also recruited teachers and curriculum experts from these schools and their districts to review test items and tell us if they covered knowledge and skills not covered for all students in their current curriculum.

The following summarizes the specific recommendations made at the end of the Year 1 evaluation activities.

Recommendation 1. The Legislature and Governor should give serious consideration to postponing full implementation of the CAHSEE requirement by 1 or 2 years.

Recommendation 2. CDE should develop and seek comment on a more detailed timeline for CAHSEE implementation activities. This time line should show responsibility for each required task and responsibility for oversight of the performance of each task. The plan should show key points at which decisions by the Board or others are required along with separate paths for alternative decisions that may be made at each of these points.

Recommendation 3. CDE and the Board should work with districts to identify resource requirements associated with CAHSEE implementation. The Legislature must be ready to continue to fund activities to support the preparation of students to meet the ambitious challenges embodied in the CAHSEE.

Recommendation 4. The Board should adopt a clear statement of its intentions in setting CAHSEE content and performance standards. This statement should describe the extent to which these standards are targeted to ensure minimum achievement relative to current levels or to significantly advance overall expectations for student achievement.

Recommendation 5. The Board should exhibit moderation in selecting content standards and setting performance standards for the initial implementation of CAHSEE. Subsequently, standards should be expanded or increased based on evidence of improved instruction.

Recommendation 6. Members of the CAHSEE Panel and its Technical Advisory Committee should participate in developing recommendations for minimum performance standards.

Recommendation 7. CDE should move swiftly to establish an independent Technical Issues Committee (TIC) to recommend approval or changes to the CAHSEE development contractor's plans for item screening, form assembly, form equating, scoring, and reporting.

Complete details of the Year 1 effort, including selection procedures for the longitudinal sample, are presented in a primary and a supplemental report describing evaluation activities, findings, and recommendations (Wise, et al., 2000a; Wise, et al., 2000b). Those two evaluation reports emphasize both the positive aspects of the results, as indicated by several measures of the quality of the test questions, and the amount of work remaining to be done before operational administration of the CAHSEE. The major apprehension noted in these reports was educators' concern that students are currently not well prepared to pass the exam.

District Baseline Survey Resulting from Year 1 Activities

The results of the baseline survey of teachers and principals in the longitudinal sample of high schools indicated concern with the degree to which students were being provided sufficient opportunities to learn the material covered by the CAHSEE. After reviewing these concerns, the State Board of Education (SBE) and CDE requested an additional survey of all public high school and unified districts in California. HumRRO developed and sent out the CAHSEE District Baseline Survey shortly after SBE adoption of the CAHSEE and its content, which was required prior to October 1, 2000. The survey covered plans for changes in curriculum and other programs to help students pass the examination. We asked that each district have the survey completed by an Assistant Superintendent or Director of Curriculum and Instruction, or the individual at the district level who was most knowledgeable about CAHSEE.

The survey, which built on and benefited from the results of the longitudinal sample survey, addressed five critical topics:

- *Awareness* of the CAHSEE, its content, administration plans, and requirements for student participation.
- *Alignment* of the district's curriculum to statewide content standards, particularly those to be covered by the CAHSEE.
- *Plans and Preparation* for increasing opportunities for all students to learn the material covered by the CAHSEE and to help students who do not initially pass the examination.
- *Expectations* for passing rates and for the effect of the CAHSEE on instruction and the status of specific programs offered in the district.
- *Outcome baselines*, including retention and graduation rates and students' postgraduation plans.

The following general conclusions were drawn from results of the district survey:

General awareness of the CAHSEE is high, but more information is needed, particularly for students and parents, about (a) the knowledge and skills covered by the CAHSEE and (b) plans for administration and reporting.

Districts report high degrees of alignment of their own content standards to the state content standards. The survey addressed this question at a general level; more work is needed to assess and document the degree to which each district's curriculum covers the content standards tested by the CAHSEE and the degree of student access to courses that offer such coverage.

Districts have implemented or are planning a number of programs to prepare students and teachers for the CAHSEE and to assist students who do not initially pass. The most frequently planned activities include more summer school, tutoring, and matching student needs to specific courses.

Districts believe the CAHSEE will have a positive impact on curriculum and instruction. Most expect at least half of their students to pass the CAHSEE on their first attempt.

Complete details of the district-wide survey effort are presented in a final technical report describing evaluation activities, findings, and recommendations (Sipes, Harris, Wise, & Gribben, 2001).

Organization and Contents of Year 2 Evaluation Report

The Year 2 Evaluation Report covers activities performed on the independent evaluation through June 29, 2001. Chapters 2–4 of the report describe activities conducted during Year 2 and present the results of these activities. The final chapter describes the main findings from these results and our recommendations based on them.

[Chapter 2](#) presents analyses of results from the Fall 2000 Field Test data. The results of the Spring 2000 Field Test indicated that nearly all of the items had acceptable statistical properties and could be used on operational CAHSEE forms. Additional test questions, however, were needed to cover particular standards and to support the assembly of multiple test forms. Additional test questions were developed by AIR and included in a second field test conducted in fall 2000.

HumRRO's analyses address the following three general issues:

- What proportion of items has good statistical properties?
- Were there significant differences in the quality and difficulty of the questions included in the second field test compared to the questions in the first field test?
- How difficult are the questions that address specific standards and did the difficulty level vary among different demographic groups?

[Chapter 3](#) examines the results of the March 2001 operational administration of the CAHSEE. These results encompass several aspects of the CAHSEE, including administration issues, analyses of test question statistics, how the passing score was set and analyses of the passing rates, and test score accuracy.

In reviewing [administration issues](#), HumRRO collected information from three sources: observing three schools administer the CAHSEE, monitoring a focus group of district test coordinators, and surveying school test coordinators from schools that participated in the longitudinal sample. The observations focused on students taking the test—attending to the pace of progress, test security, and level of distraction. The focus group was conducted with several district coordinators between the March and May test dates to collect feedback on test logistics. The test coordinator survey was administered to a sample of schools in May 2001 and also addressed logistical issues.

[Analyses of test question statistics](#) are presented separately for multiple-choice and essay items. Multiple-choice item statistics were based on all of the roughly 350,000 students taking each of the two exams in the March 2001 administration. In addition, we selected a random sample of 9,000 students for each exam and used their responses to compute item

response theory (IRT) parameter estimates¹. HumRRO staff observed training of the scorers who scored the essay questions. A summary of the scoring process, training procedure, and scoring agreement are provided in Chapter 3.

Pass rates are a critical characteristic of any testing program, especially for a high-stakes exam such as CAHSEE. The process used to establish the minimum passing scores on the CAHSEE is summarized in Chapter 3. Pass rates for various demographic groups are provided, as well as the variation in pass rates among schools. In addition, mathematics pass rates for students who have completed various levels of math classes are presented.

Test score accuracy is a key question: how accurately students were classified as having achieved or failed to achieve the passing standard. We fit a model based on item response theory to estimate how often students at each score level would be correctly classified. Results, based on the March 2001 administration, are presented in Chapter 3.

Chapter 4 describes results from the second spring survey of teachers and principals participating in the longitudinal study sample. HumRRO continued to organize the evaluation information in five critical areas:

- **Awareness** of and familiarity with the CAHSEE
- **Alignment** of the districts' curricula to state/CAHSEE standards
- **Planning and preparation** for the CAHSEE
- **Expectations** of impact on instruction, passing rates, and consequences of the CAHSEE
- **Potential outcomes** such as drop-out and graduation rates and college attendance

Chapter 5 presents our Findings and Recommendations based on the existing state of data analyses and results.

¹ In our February 2002 report, we will compare item statistics from the test forms used in the March and May administrations. Data from the May administration were not available at the time this report was written.